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ATTACHMENT B
Amendments to the Claims

Please cancel claim 4 without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) ~~Method~~ An apparatus for controlling and ~~optimising~~ optimizing the cycle for production of ice cream ~~depending on the mixtures used in the ice-cream making machines, comprising~~ based on an ice cream mixture used in the apparatus, said apparatus comprising:

a freezing cylinder exchanging heat with ~~the~~ an evaporator of a refrigerating ~~circuit, and~~ circuit, said evaporator having an inlet, an outlet, and refrigerating gas;

an electric motor;

a stirrer/scraper element ~~rotating~~ rotatable inside said freezing cylinder and actuated by ~~a suitable~~ the electric ~~motor, further comprising~~ motor;

a processing ~~element,~~ element adapted for executing a software program;

sensors for ~~detecting continuously the~~ detecting, continuously, temperature values of the refrigerating gas at the inlet and at the outlet of said ~~evaporator and~~ evaporator; and

means for ~~detecting continuously the value~~ detecting, continuously, power values of the electric power used by said electric ~~motor,~~ motor;

wherein said temperature values and said power values ~~for the electric power used by the said electric motor being~~ are continuously input into said processing element; and

~~a~~ said software program ~~in said processing element for~~ processing said temperature values and said power values ~~being able~~ so as to provide an output signal ~~which drives~~ to drive an impulse solenoid valve ~~which introduces~~ for introducing continuously ~~the~~ hot gases taken from ~~the~~ an exhaust of ~~the said~~ a compressor into ~~the~~ a main stream of refrigerating fluid.

2. (Currently Amended) ~~Method according to Claim 1, in which~~ The apparatus of claim 1, wherein the ~~said~~ introduction of hot gases into the main stream of the refrigerating fluid is regulated by said processing element so as to ~~maximise~~ maximize and keep constant, over time, the transfer of heat from the ~~product~~ ice cream mixture contained in the freezing cylinder to the refrigerating fluid in the evaporator without resorting to differences in temperature between the ~~product~~ ice cream mixture and the refrigerating fluid which are too low, by means of an increase in the thermal supply factors of the fluids in contact with the wall of the freezing cylinder.

3. (Currently Amended) ~~Method according to~~ The apparatus of claim 1, further comprising a thermostatic valve, in which the injection of hot gas into the refrigerating fluid downstream of said thermostatic valve produces an increase in the speed of the refrigerant with a consequent increase in the removal of heat and therefore with an increase in the overall transfer coefficient of the exchange between ~~product~~ the ice cream mixture and the refrigerating fluid.

4. (Canceled)

5. (New) A method for controlling and optimizing the cycle for production of ice cream based on the ice cream mixture, said method comprising:

supplying a freezing cylinder exchanging heat with an evaporator of a refrigerating circuit having an inlet, an outlet, and refrigerating gas, and a stirrer/scrapper element rotating inside the freezing cylinder which is actuated by an electric motor;

detecting continuously temperature values of the refrigerating gas at the inlet and at the outlet of the evaporator;

detecting continuously power values of the electric power used by the electric motor; and

processing the temperature values and the power values to produce an output signal which drives an impulse solenoid which in turn introduces hot gases taken from an exhaust of a compressor into a main stream of a refrigerating fluid of the evaporator.

6. (New) The method of claim 5 wherein said processing of the temperature values and the power values results in the introduction of hot gases into the main stream of the refrigerating fluid so as to maximize and keep constant, over time, the transfer of heat from the ice cream mixture contained in the freezing cylinder to the refrigerating fluid in the evaporator without resorting to differences in temperature between the ice cream mixture and the refrigerating fluid which are too low, by means of an increase in the thermal supply factors of the fluids in contact with the wall of the freezing cylinder.

7. (New) The method of claim 5, wherein said refrigerating circuit comprises a thermostatic valve, in which the injection of hot gas into the refrigerating fluid downstream of the thermostatic valve produces an increase in the speed of the refrigerant with a consequent increase in the removal of heat and therefore with an increase in the overall transfer coefficient of the exchange between the ice cream mixture and the refrigerating fluid.